BULLETIN HX(0)Volume 33 - Number 14

BROOKHAVEN NATIONAL LABORATORY



On Wednesday, March 28, the first RAP team assembled their equipment and prepared to board a Coast Guard helicopter bound for Harrisburg. -photo by Humphrey

Tons Of Lead Flown To Pennsylvania



At 4 a.m. on Saturday, Brookhaven was asked to send all available lead bricks to the Three Mile Island plant. The bricks were to be used for radiation shielding of instrumentation. Military Air Transport sent a C-141 to Westhampton Airforce Base, and before 2 p.m., the Laboratory had transported 45 tons of lead to the airport. The bricks weighed 25 pounds apiece. The huge cargo plane flew the shielding to Pennsylvania in two loads, and the first load left at 6:30 p.m. Charlie Flood was the health physicist on the job, and the logistics of the operation were carried out by BNL riggers under the direction of Bob Young. -photo by Walton

Brookhaven Helps In Crisis At Three Mile Island

Wednesday, March 28, started quietly, but the quiet did not last long. At 9 a.m., Charles Meinhold, S&EP head, reported to the Public Relations office that a call had been received earlier asking for a Brookhaven team to respond to a serious incident at a nuclear power plant at Three Mile Island near Harrisburg

From then on, the PR office was besieged with calls from television and radio stations and newspapers with questions about the incident and requests to "talk to someone who knew what was going on." These calls, which reached a crescendo on Friday, were channeled to Brookhaven scientists whose work involves nuclear energy, and dozens of TV, radio and press interviews were arranged. Many BNL scientists spent a great deal of their time on the telephone and on the air answering questions dealing with every aspect of nuclear energy.

In direct response to the crisis at Harrisburg, Brookhaven sent teams of health physicists to the area and tons of lead shielding. A computer simulation of the accident is under way. These stories appear below.

Lab Teams Monitor Area

At the request of the Pennsylvania State Department of Health, Division of Environmental Resources, Brookhaven has over the past week dispatched teams of health physicists to Harrisburg to help identify and quantify the radioactive releases from the Three-Mile Island Reactor. They have been taking samples of air, soil, water, milk, and grass from as close as one mile from the reactor to as far as ten miles away.

The first team left shortly after noon on Wednesday aboard a Coast Guard SH-3 search and rescue helicopter. A second group left the same day in a truck loaded with additional gear. Relieved by a similar group from Bettis, everybody returned to Brookhaven Thursday night and Friday

At the request of DOE part of the group returned to Pennsylvania by chartered aircraft on Friday night. In addition, two vehicles left the Laboratory with additional gear and personnel at the same time. More equipment and personnel left Sunday to complete the present complement. Though there are ten BNL people and one DOE person still in Harrisburg a total of fifteen spent time in Pennsylvania during the entire affair. The BNL people were,

Computer Simulation Of The Accident

Using computer codes which are mathematical simulations of what takes place when there is a loss of coolant accident at a power reactor, the Reactor Safety staff of DNE are working on a computer simulation of what happened at the Three Mile Island plant.

By Monday of this week, the staff had put together an "accident scenario" listing 32 possible events contributing to the accident. However, as this was information obtained from newspaper and unofficial reports, Walter Kato, Associate Chairman for Reactor Safety, stressed that they were just "educated guesses."

By Tuesday, more precise data on the nature of the accident was received from the Nuclear Regulatory Commission to define more clearly the accident sequence and provide input data for the computer code mathematically simulating the accident. By knowing the sequence of events. they will try to determine the level to which the water dropped in the reactor core during the initial phase of the accident, which can provide an estimate of core damage. Kato said that on the basis of press releases which mention only gaseous fission product releases, it appears that most of the damage was due to rupture of the cladding around the fuel elements, and not because of large amount of core melting.

From the information obtained from the computer simulation, the NRC will try to estimate the degree of core damage and what problems will be encountered in removing the fuel rods. The BNL study is expected to take several weeks.

In collaboration with the Nuclear Regulatory Commission, the Reactor Safety staff at Brookhaven have been developing and updating reactor safety computer codes since 1974.

Tony Greenhouse, Alan Kuehner, Ed Lessard, Bob Miltenberger, Joe Klemish, Andy Hull, Bob Casey, Leigh Phillips, Tom Malinowski, Al Lukas, Nate Carter, Jerry Levine, Carl Distenfeld, and Rudy Zantopp. Bob Friess was the representative from

These teams are part of the Department of Energy's Radiological Assistance Program (RAP). The BNL group can provide assistance in all phases of radiation protection as part of a nationwide plan to deal with any incident involving radiation. In this particular case RAP teams from BNL and Bettis were responsible for assisting with off-site problems, while groups from Oak Ridge and Argonne were involved on-

Part of the team set up field analytical equipment while mobile groups of two collected environmental samples in the area. The monitoring program emphasized the measurement of external radiation levels and the collection of air and grass samples (Continued on page 2)



A method for collecting radioactive iodine was developed by Carl Distenfeld and Joseph Klemish of S&EP, which was awaiting trials by NRC. It was put into immediate use around Three-Mile Island. The greatest advantage of the newly developed air sampling system lies in the special properties of its collection medium. Unlike activated charcoal, which is traditionally used in such circumstances, the treated silica gel developed at BNL, exhibits superior absorption efficiency for radioiodine while simultaneously exhibiting a relatively poor absorption efficiency for noble gases such as xenon and krypton. The noble gases interfere with radioiodine measurements, and they also pose a smaller hazard because they do not enter the food chain. (In a photo taken last summer, above, Joseph Klemish is shown with the air sample collector used last week by RAP team members.)

IAEA Safeguards Program Topic Of Meeting At BNL



The status of U.S. technical support of the International Atomic Energy Agency's (IAEA) safeguards program was discussed at a meeting at Brookhaven March 26 - 30. Among those present were Gerald F. Tape (left) President of AUI and former Ambassador to the IAEA; William Bartels, DOE; Leon Green, head of ISPO; and Dr. Johannes Gruemm, newly appointed Director for Safeguards of the IAEA. Participants included representatives of the IAEA, the State Department, Arms Control and Disarmament Agency, DOE and the Nuclear Regulatory Commission. They reviewed the 72 active projects now being managed by the International Safeguards Project Office (ISPO), in addition to the 60 new tasks that have been proposed by the IAEA. ISPO was established at BNL late in 1976 under the sponsorship of the above U.S. agencies. Its function is to consolidate and coordinate the U.S. effort aimed at strengthening the IAEA safeguards effectiveness.

Cricket Ball Tickets

Tickets to the 3rd Annual Cricket Club Ball are now available from:

Maurice Dubois Helen Keeley Debu Majumdar Sharon Smith Gail Thompson Graheme Williams Chemistry/555 Madeline Windsor Research Library/477

Fiscal/134 Accelerator/911 Nuclear Energy/130 Physics/510 Medical/490

The Ball will be held at the Brookhaven Center, Saturday, April 28, from 8:30 p.m. to 1:00 a.m. The entertainment theme is of the South Pacific. A Hawaiian dance band and a floor show of dancers exhibiting hula will be featured, in addition to sword and fire dancing. The cost per person is \$9. There will be an open bar, and hors d'oeuvres served throughout the evening.

Buy your tickets early for an "Escape to Paradise," the 3rd Annual Cricket Club

Holiday Hams On Sale

Now available from the cafeteria are Saga Foods smoked, bone-in hams for the Easter holiday. Hams are fully cooked and decorated. They may be ordered by calling Ext. 3541. The price is \$1.69 per pound.

Cafeteria Menu

Week Ending April 13, 1979

• 1	•	
Monday, April 9		
Potato leek soup	(cup)	.30
	(bowl)	.40
Turkey tetrazzini		1.30
Western omelette and 1 veg.		1.30
Hot Deli – Sloppy Joe	(on bread)	1.15
	(on roll)	1.25
Tuesday, April 10		
Split pea soup	(cup)	.30
	(bowl)	.40
Chinese pepper steak on rice		1.40
Poached filet of codfish and		
1 veg.		1.35
Hot Deli – Pastrami	(on bread)	1.20
	(on roll)	1.30
Wednesday, April 11		
Cream of spinach soup	(cup)	.30
	(bowl)	.40
Breaded flounder filet and fr.	fr	1.35
Stuffed pepper and spaghetti		1.35
Hot Deli – Baked		
Virginia ham	(on bread)	1.30
	(on roll)	1.40
Thursday, April 12		
Beef barley soup	(cup)	.30
	(bowl)	.40
Tacos and refried beans		1.35
Scallopped ham and potatoes		1.30
Hot Deli – Smoked turkey	(on bread)	1.30
	(on roll)	1.40
Friday, April 13		
Fish chowder	(cup)	.40
	(bowl)	.50
Filet of fish Parisienne		1.40
Barbequed spare ribs and 1 ve	g.	1.40
Hot Deli - Fried clam roll		
w/cole slaw and chips		1.40

Pool Hours For Guests

Under the rules established for the BNL pool, employees who wish to bring more than one guest to the pool (up to the prescribed limit of five guests) are required to make advance arrangements at the Recreation Office. Because of severe over-crowding conditions in the locker rooms, all employees are urged to adhere to the advance arrangement system and to restrict their requests to Tuesday and Thursday evenings. (Saturday and Sunday afternoons are also available.)

Please help us to help you!

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Hospitality Committee

The Spring Tea and Sherry Party will be held on Thursday, May 24, 1979, from 3:30 to 5:30 p.m., at the Brookhaven Center. Babysitting will be provided in the gym, free of charge.

The theme of the Tea is to be "A Touch of Nature." There will be a display of various indoor plants, and demonstrations on how to make silk flowers, macrame plant holders, and icing decorations for cakes. The Cooking Exchange has offered to make a variety of dips, and fresh vegetables from the Cafeteria will be served to go along with the dips. Tea, sherry and coffee will also be available.

Anyone who has an exotic or special type of plant that he or she might lend to the Committee to display at the Tea, please call Jane Love, 286-1136.

A luncheon to finalize plans for the Tea has been scheduled for Friday, April 27, at 11:30 a.m., at the Middle Island Country Club. The entrees offered are a Chef's Salad or Fish Platter. Please call Dot Marelli 345-2113, no later than Friday, April 20, regarding your choice.

Arrivals & Departures

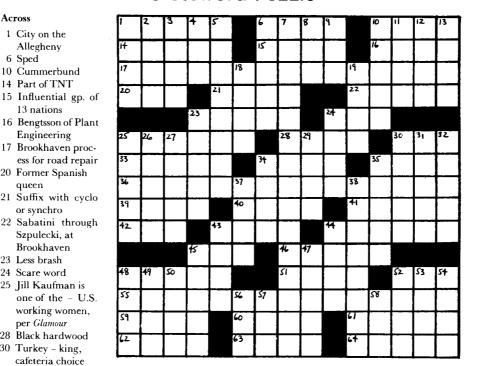
Arrivals

Habibo Brechna	Accelerator
Selestine E. Brown	Plant Engrg.
Danlel R. Clipperton	Energy & Env.
Yasuhiko Fujii	Physics
Anna E. Grego	
Peter T. Kleeman	Energy & Env.
William C. McLaughlin	Accelerator
Robert M. Medina	Plant Engrg.
Anthony Mercer	Plant Engrg.
Owen W. Murphy	
Nihal K. Notani	Biology
Frederick R. Pond	Accelerator
William V. Rabatin	
Richard W. Rosenka	Accelerator
Gerard J. Spillman	Physics
Arlean Vanslyke	
•	~,

Departures

None

Crossword Puzzle



- sultant
- 34 Con game: Slang 35 Somme night 36 Beneficiary of 17
- Across 39 Taylor of Energy & Environment
- 40 Beggar in "The Odyssey
- 41 Suburb of Minneapolis
- 42 Civil or squatter's:
- Abbr.
- 43 Navsaver 44 BNL speaker on "Careers in Computing" at Adel-
- phi, Ian. 10-11, 1979
- 45 Underlying rea-
- 46 Plumbing or carpentry
- 48 Greeting from Maui
- 51 Lorre role

- 52 Berlad DEE con-
- 55 She played Jean
- Brodie in January 59 "What's - for
- me?' 60 Frequently-dialed
- telephone number 61 Cool -, volleyball
- team in the Employees League
- 62 Memo 63 Pet does
- 64 Subject of a BNL show last autumn

Down

- 3 Lab burner
- 6 From head -
- 1 Formerly
- 2 Zodiac animal
- 4 Electric bridge
- 5 Like one L.I. shore
- 7 Bulletin fixture 8 BERA worker,

for short

field, for short 10 Supervisory prerogative

9 J.K. Galbraith's

- 11 Branches
- 12 Snick and -
- 13 Towel pronoun 18 The "Emerald Isle"
- 19 Green of Nuclear Energy
- 23 Material in 36 Across
- 24 Vessel for catching gas samples
- 25 Kind of lily or shark
- 26 Political suffix 27 Montauk sights
- 29 Gear for the Diamonds and Dirty Sox
- 30 Report for F.H. Federmann
- Wood: Comb.
- --- apple (emulated Eve)

form

- 34 Do a Mail Room job 35 Kol
- 37 Course source at
- BNL 38 Forms of results from Computer
- Sciences 43 Exclamations of discovery
- 44 44 Across's field 45 Employee cited
- for 30 years' service in January 47 Mona S. and
- Michael D. 48 Tennis term
- 49 Woven fabric
- 50 "Step ---!"
- 52 Nautica! attention-getter
- 53 Biology Build-
- ing's street
- 54 Actual being 56 Container for a
- 57 Dotted cube
- 58 Procured

Solid State Scientists To Convene at BNL

The presentation of BNL solid state physics and metallurgy programs to DOE will be held in conjunction with the spring meeting of the Solid State Sciences Committee of the National Research Council and its Advisory Panel at Brookhaven next week.

About 100 representatives of universities, research laboratories, DOE and other government agencies are expected to attend. According to Martin Blume of BNL, chairman-elect of the Council's Committee, the meetings were combined to inform the solid state community of the Laboratory's research projects, and to discuss a number of problems in funding and future directions of the various branches of materials sciences

The BNL program presentations by staff members of the Physics Department and DEE, will get under way at 9 a.m. in the Physics Seminar Room. The presentations will conclude at 2:30 p.m. On Tuesday, also beginning at 9 a.m., a symposium will be conducted on a comparison of electrons, photons and neutrons as probes of matter. Interested staff members are invited to attend any of the sessions.

Participating in the symposium will be James Davenport, BNL; Phillip Coppens, SUNY, Buffalo: Philip Platzman, Bell Labs; and Michael Isaacson, University of Chicago. Following a panel discussion, the afternoon session will conclude with a business meeting of the Solid State Sciences Panel under the chairmanship of Dean Eastman of IBM. This will be the first meeting of the Panel at BNL since the early 1960's.

Monitoring Teams (Cont'd)

in downwind directions, but during periods of wind shifts the groups went back to areas previously monitored to attempt to measure ground deposition of radioactive materials. Relatively low levels of noble gas fission products were continually released from the plant and although they posed a background interference problem they did not affect the environment or pose a significant problem to the public health. Monitoring efforts emphasized attempts to measure radioactive isotopes of iodine in the environment because of their persistence and their potential for exposing the general public through the food chain. The RAP teams field monitoring efforts worked cooperatively with ARMS which surveyed the area by helicopter.

According to Greenhouse who returned on Thursday the team was able to verify that very little radioactive iodine had escaped into the environment. Recent samples indicate the presence of very low levels of radioiodine in milk and rainwater.

New York Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, April 18. Departure will be at 8:28 a.m. from the Patchogue LIRR station. Round-trip fare for adults is \$2.45, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Thursday, April 12. Make checks payable to "Brookhaven National Labo Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

Selected Reading

Atom No. 267, January 1979

Radioactive waste: Policy and perspective. L. Roberts, 8-20

Nature 278, March 15, 1979

Eddington on Einstein's new theory. A.S. Eddington. 213-14

A guide for the perplexed. K. Brecher. 215-18

Lost On Site

Around February 26, 160 specially fabricated shoulder bolts from torch fasteners were delivered to the wrong location at the Laboratory. As this material is needed by the requisitioner, would whoever has them please call Ext. 2309.

Published weekly for the employees of

BROOKHAVEN NATIONAL LABORATORY

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CARL R. THIEN, Public Relations Officer

Women's Group Meets

BNL Scientific and Professional Women's group will be meeting on April 10, Tuesday, at 12 noon, at Berkner Hall, room C.

Harvey Thomas will speak on "Women and Affirmative Action.3

Coffee, tea and cookies will be available. Bring your own lunch.

BNL Dance Club

Registration for the Spring Session of the BNL Dance Club will be held at the Reception Desk in Berkner Hall, on Monday, April 16th, at 12 noon, for classes in Beginners Brooklyn Hustle and Street Hustle II. Classes will begin on Wednesday, April 25th through June 27th. There will be no Summer Session; classes will resume in the Fall. Classes are held in the North Room of the Brookhaven Center on Wednesday evenings. Street Hustle II will be taught from 7:30 to 8:30 and Beginners Brooklyn Hustle from 8:30 to 9:30. The cost, \$30.00 per couple, payable in advance, for 10 onehour lessons, taught by Peter Satterly, Dance Instructor, of the Starr Dance Studio. Any questions, call Marge Stoeckel, Ext. 2459

The current BNL Dance Club schedule is as follows:

April 11th - Last (10th) lesson of the Street Hustle I and Brooklyn Hustle; April 18th - Recess.

R/C Aircraft Club

There will be a meeting of the R/C model aircraft club at noon on April 11, Room A, Berkner Hall. Anyone with questions about the club is invited to attend. For more information, contact Bob Larson, Ext. 4656 or Jim Durnan, Ext. 2485.

Riflle And Pistol Club

A special meeting of the BNL Rifle and Pistol Club will be held on Wednesday, April 11, in the Medical Building (490).

All old and new members are urged to attend. New gun laws and applications will be discussed

The 1979 BNL Riffle and Pistol Club summer league round-robin matches will take place on the following dates (weather

April 10, 24; May 8, 22; June 5, 19; July 3, 17, 31; August 14, 28; September

All matches will begin promptly at 5:15 p.m., at the on-site pistol range.

Stony Brook Events

Friday, April 6

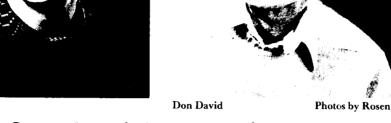
Prints Exhibit: From juried show (held in conjunction with Gallery North) through April 28, CED Informal Studies Community Gallery, 118 Old Chemistry. Hours: 12:15 - 5:15 Sat.; 6 - 8 p.m., Tues. and Thurs.

Sunday, April 8
Dance Ensemble: "Pirin," the Bulgarian National Folk Ensemble, 3 p.m., Main Auditorium, Fine Arts Center. Tickets from \$6. Call 246-5678 for further information.

Saturday, April 14

Concert: American Symphony Orchestra, 8 p.m., Main Auditorium, Fine Arts Center. Tickets from \$6. For details, call 246-5678.





Oster, David Win BERA Election

Donald David and Patricia Oster were voted winners of the 1979 BERA Board Election.

On May 1, Don and Pat will replace outgoing Board members Bob Brown and Helen Keeley, and will join continuing members Carol Beckner, Gerald Levine, Marge Stoeckel and Gail Williams.

The BERA Board would like to thank the nominating committee, the candidates, and most importantly, all employees who took the time to cast their votes.

Canoe Club

The Mountain Club has scheduled a short canoe trip on the lower Carman's River for Saturday morning, April 21st. This salt water stretch below Southaven Park is placid and ideal for a family outing. For further information call Ray Tessmer at Ext. 2002.

Mountain Club

The Mountain Club will sponsor a hike on the south half of the Greenbelt, tomorrow, Saturday, April 7. Those interested should meet at 10 a.m. at the gate to the Connetquot State Park on Veteran's Memorial Highway. (The Highway is located 1.7 miles south of the Long Island Expressway and 6.2 miles north of Sunrise Highway.) The 10-mile hike should take about four hours, including a stop for lunch, and will end at Heckscher State Park, parking field 2. All employees, families and friends are welcome to come along. Call Don David, Ext. 4821 for additional informa-

Following is a calendar of spring outings sponsored by the Mountain Club. With the exception of Pine Creek, the trips are intended for novices as well as experienced hikers. All are welcome.

Canoe trip on Carmans

-	River from Montauk
	Highway to Great
	South Bay
April 26	Meeting, 7:30 p.m.,
	Brookhaven Center
May 4, 5	Camping on Fire Island
May 12	Caving trip to New
	Jersey
May 19, 20	Hike to Slide Mt., New
	York
May 26, 27	Canoeing on Pine
,	Creek, Penn.
June 9	Rock climbing at the
	Gunks, New York
June 16, 17	Canoeing on Delaware
	River

Golf

April 21

Golfers are reminded that there will be an organizational meeting tonight at 5:00 p.m. in the Recreation Building. Rule changes, among other matters of interest, will be discussed.

Theatre Group

There will be a regular meeting of the Brookhaven Theatre Group on Tuesday, April 10 in Berkner Hall at 8 p.m. All interested persons are invited to attend. Readings from "Otherwise Engaged" and "Rosencrantz and Guildenstern Are Dead" will

The Theater Group will present "Enter Laughing" May 11-12 and May 18-19 in Berkner Hall at 8:30 p.m. Mark these dates on your calendar: you won't want to miss the funniest show in years!

Radio Club

There will be a meeting of the BNL Radio Club at noon on Wednesday, April 11, in Berkner Hall room C. Topics to be covered at this meeting include election of 1979 officers and purchase of equipment and supplies for the club station. Members are reminded that 1979 dues of \$2.00 should either be brought to the meeting or sent to the club treasurer, Warren Hirzel, at Bldg. 960.

Soccer

Medical, Energy, Safety, Shops (better known as MESS) won first place in the Brookhaven Indoor Soccer League. Physics ended up in second place, and last year's champions, PJ703, came in third.

Indoor play will continue each Friday at 5:15 p.m. in the Gym until Daylight Savings Time becomes effective. Those interested in joining the outdoor games may wish to hone their skills these last few weeks in the Gym and are welcome to participate. Merely show up or call Ralph Fairchild, Ext. 3649.

Bowling

Red League

Great team bowling by This Isa Team (3032 pins) winning 8-3 over the Sandbaggers. S. Kiss had a 562/652, R. Kiss 619 gross, E. Meier 627 gross, K. Riker 626 gross and C. Bohnenblusch 201/609. The Freon Loaders took the Old Timers 8-3. W. Reams had a 203 and J. Kelczewski grossed 605.

The 76'ers won 7-4 over the Old Timers II. J. Morris had a good night 246/588/ 633, M. McKenna grossed 604. The Anachems split 6-5 with the Pinball Wizards. C. Bachsmith (220) grossed 657 pins. The Designers split 41/2-61/2 with the Cosmos team. D. Hayslip had a 222 and grossed

Pink League

Hooray for the Pink League; they sure made a comeback! Pat Jencius brought along her good luck charm (Mike) and bowled up a storm. She had a 202/170 for the high triple of the night of 515. Barbara Cochrane also had a great night with a 196/179 for a 510 triple. Contributing to the comeback were the following hot numbers: Renie Rosati 194, Millie Connelly 192, Marge Stoeckel 180, Carol Beckner 167, Ellie Kristiansen 165, Mary Grace Meier 164, Fran Briening 160 and Audrey Blake 151.

Bowling Tournament

Although the BNL team at the L.I. Industrial Bowling Tournament (Gail Thompson, Sharon Smith, Ellie Murgatroyd and Helen Keeley) did not do exceptionally well, next week should be entirely different. They are a good working team; look for good scores next week.

Five-Boro Bike Tour

A 36 mile tour starting at Battery Park in Manhattan will be held Sunday, April 22. The tour begins at 7 a.m. and passes through all five boroughs of New York City including Staten Island (by bridge and ferry). Since thousands of entrants are expected, advance registration is desirable. For registration, send \$1.00 as soon as possible to AYH, 132 Spring St., Room 5, N.Y., N.Y. 10012 (phone 212-431-7100).

The availability of LIRR transportation has not been determined as of April 3. The registration material supplied by AYH will contain this information as well as route information for meeting the tour at other points besides Battery Park. The kit also includes a reflective safety vest.

Softball

Softball season is fast approaching. The tentative starting date of league play will be during the week of May 14. Roster forms for this season have already been mailed to last year's team captains. Any new teams wishing to join BNL leagues are requested to call C. Bohnenblusch at Ext. 4758 for an official entry form. Any "unattached" employee needing assistance in finding a team should contact the league representative covering the night of your choice.

Tuesday - W. Chornoma, Ext. 3255 Wednesday - R. Chester, Ext. 7932 Thursday - G. Thompson, Ext. 7646 - K. Sutter, Ext. 4514

League President, Charles Bohnenblusch anticipates the largest turnout ever for this season. Therefore, all entry forms and fees must be returned as soon as possible to the treasurer, K. Asselta (Ext. 4581) Building 901-A. Meetings will be held with each league as soon as possible after receipt of rosters to determine league structure and scheduling.

Aviation Club

A reminder that all employees, families, and friends are welcome to attend the next meeting of the Aviation Club on Wednesday, April 11, at 6:00 p.m. in Berkner Hall, Room C.

The guest speaker will be Don McGovern, editor of "Flying Models" magazine, who will give a talk on glider flying (soaring). In addition, there will be two short F.A.A. films - "Caution: Wake Turbulence" and "Mountain Flying."

Volleyball

Division A

On March 26, Oceanography beat Family Affair: 15-7, 15-1, 15-2. No Names took all three from Nuts & Bolts: 15-8, 15-12, 15-3. Diamonds over Lookin' Good 9-15, 15-10, 15-12. Popovers shone over Nuclods: 6-15, 15-9, 15-6.

Standings

Oceanography	12- (
No Names	11- 1
Nuclods	6- 6
Nuts & Bolts	6- 6
Lookin' Good	5- 7
Diamonds	4-8
Popovers	3- 9
Family Affair	1-11

Division B

Nads over LeMufs: 12-15, 19-17, 15-9. Medical shone over Balls & Strikes: 12-15, 15-9, 17-15. Leftovers swept the Wisa's: 15-1, 15-7, 15-5.

Standings

Leftovers	11-
Balls & Strikes	7-
Nads	5-
Medical	3-
LeMufs	3-
Wisa's	1- :

Employees' League

On March 28, the Bumps shone over Toga: 19-21, 21-14, 21-16, Atom Spikers over Phoenix: 21-13, 14-21, 21-17. Spikers swept Cool Tools: 21-8, 21-15, 21-15.

Standings					
Bumps	22	5	.815		
Spikers	20	7	.741		
Toga	16	11	.593		
Phoenix	10	14	.417		
Cool Tools	6	21	.222		
Atom Spikers	1	20	167		

It now appears that the Spikers will play the Bumps on April 11 at 5:30 for the Employees' League Championship.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the bestqualified candidate for an available position, with consideration given to candidates in the following order of priority:(1) present employees within the department, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment, as indicated below. Except when operational needs require otherwise, positions will remain open for one week following publication date

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2882.

LABORATORY RECRUITMENT: Opportunity for present Laboratory employees

953. MATERIAL HANDLER - Supply and Materiel Division

OPEN RECRUITMENT: Opportunity for present Laboratory employees and outside applicants

954. DEVELOPMENT ENGINEER - Requires demonstrated experience in the design and operation of combusion test facilities and ability to perform analysis of combustion equipment. Department of Energy and Environment.

955. ELECTRONICS TECHNICIAN - Requires AAS or equivalent in electronics with a good background in pulse circuits, analog and digital controls and high voltage and/or high current power supplies. Should be skilled at troubleshooting of heavy electronic power supplies and associated controls. Accelerator

956. MECHANICAL TECHNICIAN (weekly or monthly) - Requires AAS or equivalent capabilities and substantial all-around vacuum experience. Background in ultrahigh vacuum and electronics desirable. Physics Department, National Synchrotron Light Source Project

957. OFFICE SERVICES ASSISTANT - Requires ability to accurately type and file correspondence and library record forms. Will work with both acquisitions and cataloging departments. Technical Information Division.

958. OFFICE SERVICES ASSISTANT - Reguires ability to accurately type correspondence and library record forms. Will operate xerox and microfiche equipment, shelve journals and type records and correspondence for circulation department. Technical Information Division.

959. DRAFTER - Requires successful completion of a mechanical drafting program or equivalent experience in Leroy lettering and ink tracing. Work will include detailing and technical illustration. Department of Energy and Environment.

960. COMPUTER OPERATOR - Requires AAS degree in data processing or successful completion of computer operations training program or equivalent experience in computer operations. Will be working with IBM 360/30 & Hewlett Packard equip. May be required to work rotating shifts. Administrative Systems & Data Processing Division.

961. MASTER WELDER - Requires ability to weld aluminum/stainless steel using arc and heli-arc welding procedures. Central Shops Division.

962. TECHNICAL TYPISTS (temporary, part-time) -Requires excellent typing skills. Daytime or evening hours to be arranged. Department of Energy and Environment and Personnel Office.

Autos & Auto Supplies

73 PINTO HATCHBACK - eng good, trans needs minor repair. \$300. Jack, Ext. 4255, 289-6708.

70 FAIRLANE 500 WAGON - ps/pb, a/c, needs some body work, good running. \$275. Tom, 325-1033.

64 INTERNATIONAL PICKUP TRUCK - heavy duty, step-side, 6 cyl, stick shift, runs well, body fair. \$350.

58 AUSTIN ENGLISH SEDAN - Model A-35, 4 spd, 38,000 mi, excel cond, 35 mpg. \$1250 incl spare

8' CAMPER CAP - insulated, paneled, w/insert incl 2 bunks, table, sink, stove & ice box, excel. \$600 or best offer, 929-8105.

73 DODGE VAN CAMPER - glass roof, refrig, stove, toilet, FM + 8 track, water syst, fully self-cont, excel cond. \$6500. Al, Ext 4313.

68 GMC CARRYALL - auto. Ext. 4289.

74 CHEVY MONTE CARLO - a/t, ps/pb, a/c, radials, brown w/white landau, pinstriped, excel cond. \$2900. Frank, Ext. 3898.

73 CHEV PICKUP - 4 w/d, a/c, ps/pb, AM/FM w/ 9½' mobil travlr, self-cont. \$4900. 653-4632 eves.

78 CHEVY VAN SEAT - tan & brown w/yellow check design, never used. \$50, 924-6733.

1 RIM - 13x5 for Vega, Monza, Astre, Starfire, etc. \$6. R. Doering, Ext. 3049, 265-0391 after 5:30.

71 CHEVELLE MALIBU - 4 dr, a/t, p/s, AM, good cond. \$700 or best offer. Ext. 2283/3070.

SHOP MANUALS - 63 & 64 Pontiac. \$10. Palais, Ext. 2913, 698-0576.

70 FORD GALAXIE XL - very good running cond,

needs body work. \$250, 928-6939.

72 CADDIE SEDAN DE VILLE - 68,500 mi, AM/FM stereo, tape deck, new tires. \$1900. Walter, Ext. 3352 732-1913.

75 FORD ELITE - 4300 mi, fully equipped, posi, extra snows, excel cond, orig owner, immaculate. \$3200. Ext. 4301.

MOTORCYCLE ACCESSORIES - Harley Davidson saddle bags & rack, \$40; plexiglas windshield, \$15. E. Edwards, Ext. 4027, 286-1121.

67 MGB - white w/new blk int, very good cond. \$1000. 472-3994.

70 CHEVY IMPALLA - 350 V8, 76,000 mi, radial tires, ps/pb, radio, orig owner. \$750. 289-2902.

68 BUICK LESABRE - \$300. 924-3522 after 5:30.

4 TIRES - L-78-15 w/6 hole rims, mounted, excel, for Chevy pickup. G. Woodson, Ext. 4033, 727-5532.

74 OLDS CUSTOM CRUISER - fully equipped, excel cond. \$2500. 744-6043 after 6.

68 CHEVY CAPRICE STATION WAGON - ps/pb. \$275. 744-6362.

76 PLY SCAMP - 40,000 mi, a/t, slant 6 gas saver. Lawrence, Ext. 4107, 472-0721.

RIMS - 2-14" mag sport rims, alum color. \$15/both. 924-3821

69 DODGE WAGON - 315 eng, good cond, rebuilt trans, new brakes & other. George, Ext. 2674/3010. 78 PONTIAC LEMANS - 305 V8, 2 dr, a/t, ps/pb, a/c, AM/FM, 14,000 mi, must sell. Fari, Ext. 7793 or 3112

73 DODGE MOTOR HOME - 22', sleeps 6-8, very good cond, avail end of June. \$6000. Geerd, Ext. 4393/3134

68 IMPALA - new starter, gen, batt, exhaust, valves, lifters, camshaft, timing chain. \$550. 698-5405.

UNIROYAL TIRES - steel belted radial, FR78-15, brand new. \$25. Alan, Ext. 2252. 69 TORINO SQUIRE STA WAGON - 302 eng, good

2nd car. \$500. Ext. 4823, 878-2134 after 5. 68 DODGE STA WAGON - 318, good running cond, Reese hitch, needs ring job. \$400 or best offer. John,

73 ½ TON PICKUP - 8' box, 31,000 mi, excel cond. \$2400 firm. 878-1572 after 5:30.

72 CHEVY CAPRICE WAGON - 9 psgr, a/c, a/t (rebuilt, guaranteed), clean, regularly serviced. Asking \$950, 744-0007.

73 PONTIAC CATALINA - good cond, ps/pb, recently rebuilt a/t. \$1000. Geerd, Ext. 4393/3134.

DODGE DART PARTS - tranny, master cylinder, air shocks, bckt seat, much more. Pat, Ext. 3148.

FM STEREO - under dash mount, \$20, John, Ext. 4425. CLASS III HITCH - never used, purchased for 73 GMC van. Ext. 2309, 473-9180.

VW AUTO PARTS & MOTOR - very cheap. Ext. 4070, 475-7668 after 6.

Boats & Marine Supplies

Ext. 3651.

HOBIE 18 - sail #282, trailer & access, excel cond, rarely sailed, \$3700, Ext. 4650.

22' GARVEY - glassed & decked, ice boards, excel bay boat, Ext. 3413, LT9-9160.

201/2' WESTWIND BOAT - 1969, fiberglass, sleeps 2, navy top, head, 100 hp Johnson outboard, Holesclaw trailer & tandem wheels. \$1800. 928-6680.

31' ULRICHSON - FB, sleeps 6, DF CB, full canvas, many extras, 238 hp Gray marine-rebuilt 1977, incl new manifold, exhaust & risers, good family cruiser.

17'2" KLEPPER KAYAK - folding, stowes in 3 bags, unsinkable, use as 2 or 3 seater, \$250. Gene, Ext. 3354/

22' SLOOP - 15 hp Johnson motor, \$3950. Ext. 7730, 286-8097

19' BAYLINER - 1973, fiberglass, 135 hp Volvo, navy top, 75 Shoreline trailer, elec winch, excel cond. Ext.

2611, 751-3702. 21' SWING KEEL SAILBOAT - fiberglass, 4 sails, 6 hp

Evinrude, trailer, cruise equipped. \$3500. Bill, Ext. 7604, 473-1813.

Miscellaneous

BICYCLES - 20", \$15; 24" 3-spd, \$25. Ext. 7730, 286-

FULL SIZE BED FRAME - folding type, on wheels, almost new. \$20. Vinnie, Ext. 2951.

HAMMOCK - red canvas, 6'x28" w/23' of 1/2" manila rope, \$10; Army folding cot, canvas & wood, like new, \$7. Connie, Ext. 2263.

36" STOVE - 4 burners, oven, broiler & storage compartment. \$75. Ext. 3650, 269-9175 after 6.

CHAIR - blonde wood, chinese red upholstery, excel cond. \$25. M. Cox, Ext. 3659, 286-3357.

DRAPES - 2 pair 72x63, brown antique satin, \$10/ pair; 2 spreads, bunk beds, brown ribbed, \$7/both.

MOVIE CAMERA - "collector's" cine Kodak, Model B, still works, about 50 yrs old. \$50. Mike, Ext. 7941. WOMEN'S 5-SPD BIKE - needs tires, excel cond. \$40.

Patti, 289-1439 after 5. 20 GAL HIGH AQUARIUM - w/everything incl fish.

\$40. Rich, Ext. 4027, 277-1129. ACOUSTIC GUITAR - Ibanez 12 string, 2 mos old,

perf cond, \$215; Danish mod buffet, 5'lx36"w, walnut wood, very nice piece, \$175. Ext. 4532, 277-4091. SEARS RIDING LAWNMOWER - 5 hp, 26" blade, excel cond. \$175. Pete, Ext. 3868, 878-1225.

2 CARRIAGE WHEELS - from antique horse-drawn carriage, excel cond. Set of 2/\$150. Tom, 325-1033. REFRIG - United 22 cu ft. \$125. Sue, 286-0407.

TURNTABLE SPKRS - 2 Cerwin Vega 26B, 2 Martin Super Max II, 1 Dual 1218 & dust cover. Cost \$420, asking \$200. Bill, Ext. 3369.

ENCLOSED UTILITY TRAILER - 4'wx8'lx5'h, side doors open to approx 4'x4', excel for rototiller or lawn care equipment, chain saws etc, good cond. \$100.

UPRIGHT FREEZER - 19 cu ft United, \$450; 3 pc sectional. 2 chairs, \$400, 473-6386 after 5.

COLONIAL WOODEN FIREPLACE - access incl. \$150. 751-8223

PANASONIC STEREO - 8-track tape recorder, playback deck, works beautifully, good cond. \$65. 473-

BICYCLES - 2 new men's Ross Eurotour 26" single spd, retail \$75. \$55 ea or both/\$100. Chris, 727-0092 after 6:30

38' CAMPER - 5th wheel, heat, a/c, refrig, shower, bath, gas stove, carpeted. Julie, Ext. 2942, 929-6460. 20" GIRL'S BIKE - 2 typewriters; kitchen set; guitar; carriage. Arnold S., Ext. 7772.

BEDRM SET - walnut finish; padded bar, 2 stools; all excel cond. Carol, Ext. 3485, 325-1227 after 6.

ELEC STOVE - 4 burner, 21"wx25"d, like new. \$60.

CARD TABLE - octagon shoped, red felt top w/4 matching red folding chairs, \$75; Sears frost-free refrig-freezer, white, bottom reezer, \$75. B. Doering, Ext. 3049, 265-0391 after 5:30.

12" TV - Sanyo b/w portable, ½ yr old. \$35. Ext.

RADIO CONTROL SYSTEM - Kraft 2 channel, \$60; O.S. max .10 eng, \$20 firm. F. Rumph, Ext. 4581.

8-TRACK PLAYER & CASSETTES - \$25; Teac AN-60 Dolby noise reducer, \$35; Teac A110 cassette deck, \$30. Don, Ext. 4551.

COMMUNICATIONS RCVR - Hammarlund HQ-170A, ham band 160-6 meters, mint cond. \$175. John, Ext.

REFRIG-FREEZER - frost free, 18 cu ft Philco, coppertone, good cond. \$75. Walter, Ext. 3358, 732-1913.

TAPPAN GAS WALL OVEN - stainless steel w/chrome int, needs new thermostat, very reasonable. Ext. 4070, 475-7272 after 6.

COLECO POOL - 15'x30'x4' oval, w/Jacuzzi filter & all access, excel cond. 924-3553.

TRACTOR - International Cub C cadet, mower attachment. \$850. M. Cox, Ext. 3659, AT6-3357.

24' SHASTA TRAILER 1977 - sleeps 8, bunk house, selfcont, full bath, excel cond. \$5100. 475-6837.

21" B/W TV - Magnavox table model, \$20; fireplace heat convector, Firebird 5-tube, \$10. Pat, 929-8443. STOVE - sm cast iron, wood or coal, good for workshop or garage, \$30. Mike, 281-3460.

BABY CARRIAGE - Bilt-Rite, like new. \$35, 744-2404. ADOPTION - AKC blond, beautiful, happy Cocker Spaniel, male, 2 yrs old, wonderful w/children. Ext. 2065, 584-6058,

BABY CARRIAGE - good for grandma's house, \$15; long-hair Peruvian guinea pig, \$5. Chris, Ext. 4612, 281-7379

POOL - 24' round, mesh cover, sand filter, deck & other equipment, best offer. Fred, 289-1085.

12 RECORDS - 78's, made in Germany; Polish records opera, classic & singing (33's), good cond, 50¢ ea; Polish bks. 727-1617.

19" COLOR TV - toaster; AM/FM clock radio; iron; utensils; all like new; must sell. Ext. 3112.

MNINBIKE - 3 hp Techumseh eng, excel cond. \$100. Ted, Ext. 4163, 286-0065 DANISH DEN FURNITURE - 2-42" love seats, 1

corner tier table, 1 lamp table. \$100. Rose, 423-4472

CERAMIC KILN - Skutt model 231-18", new; United upright freezer, approx 27 cu ft; accordian, "Crucianelli," made in Italy. Annette, 821-0832.

POLAROID SQUARE SHOOTER 2 - land camera, excel cond. \$18. 727-5912.

Ads left out of this issue because of lack of space need not be re-submitted in order to run in next week's issue.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.

For Sale

ROCKY POINT - The Tides, 70' ranch on ½ acre, 3 bedrms, 2 full baths, L/R, D/R, den w/fp, eik oak floors, full bsmt, gar, patio, ex schools, shopping, pr beach, assumable 6% mort. Otto, Ext. 4605, 744-

MASTIC BEACH - 3 bedrm long-line ranch, bsmt, excel cond, many extras, 71/2% or 1% mort (Farmer's Home), terms negotiable, immed ate occupancy. 281-

car gar, on wooded acre, Shoreham-Wading River schools. \$59,000. 929-8377 after 6. WADING RIVER - 4 bedrm ranch, fp, 2-car gar, 3 rm

WADING RIVER - 3-4 bedrms, cape, 2 baths, fp, 2½

fin bsmt, pool, beautiful area, extras. \$51,800, 929-

MORICHES - property, $\frac{1}{2}$ acre wooded, prvt beach & marina, excel location. \$16,500. 878-1912 after 6.

RIDGE - 5 yr custom splanch, excel cond, 6 rms, 1/3 acre, treed, redwood fenced, state redwood patio. 1½ car gar, low exist 7¾% mort. \$40,000, 924-0837

WEST ISLIP - hi ranch, So Montauk Hwy, docking rights, 3 bedrms, L/R, D/R, eik, fam rm, den, 21/2 baths, 2 fp, deck, patio. Low 60's. 661-3732

SETAUKET - Nassakeag Ridge, walk university, custom built cedar shake ranch, wooded ½ acre, cathedral ceiling fam rm w/fp, fin bsmt, gourmet kit, many extras. Hi 60's. 751-6508.

LAUREL - 7 yrs old, 7 rm ranch on ½ acre, taxes \$900, excel school dist, beach rights, deck, fp, only 35 min from BNL. \$55,000. 298-4093.

BROOKHAVEN HAMLET - 3 bedrm colonial, formal D/R, 2½ baths, fp, fin bsmt, 1½ car gar, wooded ¾ acre, many extras, dock rights. 286-1024 after 6.

SHOREHAM NORTH - 3 bedrms, study, eik, 1/3 treed acre, deeded beach, fp, deck, fin bsmt, low taxes, 744-5801.

SHOREHAM - lg 4 bedrm house, 1 acre land, prvt beach, many extras. 744-2514.

MILLER PLACE, NORTH - wooded, native laurel, dogwood, rhododendron, custom ranch, 3 bedrms, gourmet kit, full bsmt, low taxes, energy efficient, easy maintenance. Assume 71/2% mort. \$53,900. Spaulding. Ext. 2965, 473-3305.

MASTIC BEACH - long-line ranch, 2 over-size bedrms. cabinet-lined kit, formal D/R, den, full bsmt, baseboard heat, ¼ acre. \$27,000. 281-5498.

SHOREHAM NORTH - Waterview, 4 bedrms, din rm, walk to beach, patio, fp, low taxes. 744-0767.

For Rent

WADING RIVER - sm 3 bedrm house, on 25A near shopping center. 929-6763.

MASTIC - 6 rm house, bsmt, 3 bedrms, unfurn, avail immediately, insulated. \$350 + util, security. Ext. 3937, 286-8195.

BELLPORT - single lady wishes to rent sep upstairs unfurn 1 bedrm apt in duplex to single person or couple; prvt entrance, gar & all util incl. \$250. Lease. Reduction in rent possible for agreed-upon services.

CORAM - 3 bedrm house, furn, 9 mi from Lab, avail June 15 to Aug. 31. Ext. 2277, 928-9448.

Wanted

286-8850.

MOPED - in good condition, preferably w/baskets, reasonable, 878-2239.

FURN 2 BEDRM APT - near BNL, from June to Oct. S.F. Chan, Ext. 4360.

HOUSE - 3 or 4 bedrms, for family, Riverhead School Dist, or reasonable rental, have references.

METAL POLE - rim, backboard for basketball court. Ext. 2487, 928-6930. ELEC GUITAR - good cond & reasonable. Sheila, Ext.

2540, 744-8901. BABYSITTER - my home, Mondays 9 am - 1:30 pm,

own trans. 654-2831. HOME FOR SIAMESE CAT - altered male 5 yrs old, all shots, very affectionate, loves children. P. Fallon,

SHOTGUN - 20 gauge or 410. Ed, Ext. 2562/2362. CHILD CARRIER - to fit 10-spd bicycle. 928-6939.

GOOD HOME - for 2 yr old English Sheep Dog, good w/ children, moving - cannot keep. Don, Ext. 4551, 281-3093.

HELMET - for motorcycle-minibike, sm or med. Ted,

Ext. 4163/4126. BOAT TRAILER - 14' boot. J. Hurley, Ext. 4033.

MOTOR MANUAL - for 68 Chevy Malibu. Walter, REASONABLE STOCKADE FENCING - kids need safe play yard. Chris, Ext. 4612, 281-7379.

HOUSE TO RENT - Bellport, E. Patchogue or Brookhaven, before June 1, 286-9471 after 6.

SM UTILITY TRAILER - Steve, Ext. 4725.

BICYCLE - Men's 10-spd 21" frame, 26" or 27" whis, good cond. 744-6812.

SNARE DRUM - for young aspiring musician. Mario, Ext. 4543, 363-2522 after 6. HOUSE/DOG SITTER - or dog boarder for 7 wks,

May-June. Dave, Ext. 4394. TOW BAR - for jeep. Will pay \$15, or universal type \$30. Ext. 4254, 281-7683 after 5:30.

Lost & Found

Car Pools

BELLPORT - established car pool needs driver. Wayne, Ext. 2824; Don, Ext. 2860.

LOST - book "Nuclear Chemical Engineering" by

Benedict & Pigford. If someone finds it, please call Ext. 4044.

EXPERT TUTORING - certified teacher, reading, math to grade 12, French, German, English, in my home.

\$10/hr. 941-4328. ROTOTILLING - gardens & new lawns. Up to 1000 sq ft for only \$18, Tom, 325-1033.

BABY SITTING - Manorville, my home, mother of 2, yard, lunch, references. 727-4994. VINTAGE CARS FOR HIRE - specializing in weddings,

proms. Mike, 281-3460. ASPHALT PAVING & SEALING - Bob. 475-4382.

ROTOTILLING - reasonable rates, any garden \$25 or less, sm farms slightly more. Bill, 281-7665.

BABYSITTING - at my home, Mon thru Thurs, 7 am -6 pm. 727-5912.

TAXES - prepared by tax consultant, your home or mine, reasonable. John, 732-2472.